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THIS IS UNEVALUATED INFORMATION

50X1 1. Scientific research work in the field of metallurgical machine-building in the USSR is controlled by and, to a considerable degree, performed by the Central Scientific Research Institute of Technology and Machine-Building ("TsNIITMASh").

50X1 This institute belongs to the system of "MTM" (Ministry of Heavy Machine-Building) plants which manufacture metallurgical equipment.

50X1 "TsNIITMASh" is subordinated to "MTM" in its practical activity but at the same time is associated with and, to a certain degree, depends upon the Academy of Scinece of the USSR. One department in "TsNIITMASh", "TsKBMM" (the Central Designing Department of Metallurgical Machine-Building), handles the practical aspects of the scientific research work in the field of metallurgical machine-building, the development of new designs of metallurgical equipment and perspective and present real projecting. This department also has under its control a series of laboratories, a machine-assembly shop, a small cast-iron foundry and a mall forge shop.

2. Within the Ministry of Ferrous Metallurgy there is a scientific research institute and two large projecting organizations - "GIPROMEZ" and "Stalproekt". "GIPROMEZ"

50X1 and its branches and "Stalproekt" are concerned with the perspective development of the ferrous metallurgy of the USSR and its current problems while the

50X1 institute evidently carries on scientific research.

3. Scientific research work in metallurgy and metallurgical machine-building is also carried out by the laboratories and chairs of all those institutes of which

50X1 machine-building. there are good laboratories in the Moscow Institute of Non-ferrous Metals and Gold, which was built up in the 1930's,

50X1 and in the Moscow Metallurgical Institute (imeni Baumana?), which formerly was a part of "MVTU" (Moscow Technical Institute.

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50X1 4. [redacted] all large metallurgical plants and heavy machine-building plants have their own laboratories where they conduct research chiefly in the industrial field. For example, the metallurgical plant "Elektrostal" in the town of the same name in the District of Moscow and "NKMZ" in Kramatorsk have both developed new brands (marks) of alloyed steels. Before World War II, so-called research groups were organized at "UKO" (Projecting-designing departments) of some heavy machine-building plants, whose principal task was to gather, systematize and study material concerning machines manufactured by the plant, with special emphasis on materials concerning the exploitation of machines manufactured by the plant operating under working conditions.

5. In existence in the USSR there was a system of scientific-technical societies called "NTO" whose purpose was the prom tion of the development of the technical sciences. Concurring in scientific research projects worked out by individual specialists or groups of specialists under the authority of "NTO", was the chief concern of "NTO". The majority of such projects were of an industrial nature, and they were carried out for the most part in the manufacturing shops at the plants during working hours. Another duty performed by "NTO" was that of giving approval to specialists who worked at industrial enterprises as a part of obtaining their scientific degrees.

6. Scientific works, both books and articles, are at a minimum, both in quantity and quality. There are two publishers in the USSR which handle the output of metallurgical and machine-building subjects; they are "Metallurgizdat" and "Mashgiz". It should be pointed out that now and then good works of a sufficiently serious theoretical level but at the same time of a sufficiently practical nature to be of use to industrial specialists do make their appearance in the
50X1 USSR. [redacted] the great bulk of the books published by these houses are at a "technical minimum" and therefore are principally used by workers, schools of the "FZO" and trade schools. Among this group of books are very many which achieve their nominal purpose only more or less satisfactorily. Textbooks and equipment for secondary schools, especially for technical institutes of the type discussed here, are both extremely scarce and to a great extent obsolete. As a rule, scientific works for general use are not published. A considerable number of potentially valuable works are kept in a publishing house for years, thus never reaching the market: this ultimately causes them to become morally (sic) obsolete. Qualified up-to-date special magazines on metallurgy and metallurgical machine-building are insufficient, and reference literature is poor and has not kept pace with other countries on the technical level of problems under consideration. That technical literature which does exist is very expensive and badly published, and the best of this is bought up so quickly (the published number of copies having no relation to the real demand) that is difficult to acquire it.

7. So-called "class selection" of students has brought great harm to scientific research and to science as such in the USSR. This system of "class selection" prevents the admission to learning, especially at the universities, of students other than those students who are politically and socially pleasing to the Soviet regime. This results in the mass admission of students into the universities who are socially and politically satisfactory but who are badly prepared and often without the required natural abilities, and who themselves sometimes have no inclination to get such an education. Thus, severe barriers confront that segment of the youth which is of an intellectual bent and could contribute the most in the scientific and technical fields.

8. The so-called "classoviy podkhod" (class approach to specialists and scientists) and "partiimost v nauke" (keeping true to party principles in science) rendered great harm to scientific and technical progress in the USSR. The nature of this is evident in a new type of demagoguery, in screening of all kinds of restrictions, and persecutions of "suspicious and unreliable" ones or specialists and scientists not loyal to the Soviet regime. These circumstances have reduced the average level of specialists' qualifications and the possible level of science in the USSR.

50X1 9. the general picture of research activities in the metallurgical and metallurgical machine-building field is completely unsatisfactory. The USSR is far behind the US and Germany in this field, a situation which has not become entirely catastrophic up to the present time only because essential data has been available to the USSR from those countries. The ability to acquire the information needed from the US and Germany is the real significant part of the work of the scientific research specialists in the field of metallurgy and metallurgical machine-building of the USSR.

10. A lot has been said about the defects of the scientific research work in the USSR, and much has even been acknowledged officially in the Soviet press. As always, however, those defects acknowledged by the Soviet government would appear as particular and isolated errors caused by the laborers and their direct leadership rather than as it really is, a fundamental flaw in the system itself. A great deal has been written of the defection of scientific research organizations and their personnel from industry and real industrail themes, the successful solution of which could contribute much to the rise of the technical standard of manufacture. Among those things in this general field dealt with in the Soviet press, which indicates the official Soviet attitude in this subject are the following: the institutes are occupied with problems of a general theoretical nature, often quite widely separated from the real needs of the matter, instead of working out practical proble s; the "scholastic" tendency in the scientific research work often prevails; the efficiency of work in the institutions is very low; scientific fellow-laborers have not developed the required productivity of work; the so-called "idealistic", instead of materialistic, trend in technical matters, and "worshipping", or, as so often said, "cringing" before the "captialist technique", is too much evident, etc.

11. the essence of Soviet weakness in scientific research work in
50X1 field of metallurgy and metallurgical machine-building is akin to that in the majority of other scientific and technical fields in the USSR. This weakness is caused by the following: the absence of efficient principles and stimulation and direction of the work along the right course, which is caused by the presence of the Soviet Power itself; the complete shortage of material and technical facilities, i e, of the material base, very weak in both quality and quantity, which is at the disposal of establishments and individual persons conducting the research; the insufficient number and the low level of qualification of specialists employed
50X1 in research and experimentation; the complete absence of or insufficient experience
50X1 and of successive traditions in the arrangement of a research project or of an experiment; the general great and deep technical backwardness of the USSR.
50X1 at "TsKBMM" at "TsNIITMASh" in 1945 and 1946,
50X1 the leadership there directed a transition from the abstract theoretical themes to those themes the successful solution of which could be expected to produce immediate positive practical results. at "TsNIITMASh" the end result of this policy was rarely successful, and it was, moreover, not always rational. All the themes of scientific studies for completion of university degrees upon which specialists at "TsKBMM" worked in 1945-46 were, to a considerable degree, of an applied nature. Professor, Doctor of Technical Sciences, A I Tselikov, chief of "TsKBMM" in 1945-46, offered a number of plant engineers, engineer-designers among them, the opportunity to compete for the degree of candidate of technical sciences, the first scientific degree in the USSR. The basic theme these engineers were concerned with in their work for their degrees was the industrial work in which they were engaged. At the same time, satisfactory completion of a so-called "candiate minimum" (an examination of necessary theoretical knowledge) was obligatory. However, in order to attract industrial specialists to scientific work, assistance of every kind in the preparation for the "minimum" and in conducting the projects was promised by "TsNIITMASh". In this manner, the steps toward a university degree were eased considerably for engineers already working in industry. At the same time, it was said that theoretical specialists were finding it somew at more difficult to get university degrees.
50X1 At the end of 1945 or at the beginning of 1946, specialists holding university degrees were given a large increase in salary. this act created increased interest both in the maintainance of university degrees by those already in possession of them and to the obtaining of degrees by those not then having them.

12. Among the projects upon which specialists of "TsKBMM" worked were the following: rolling of profiles of changeable cross sections; rolling of pinions; super-highspeed rolling; bearings of fluid friction; automatization of operation of the processes of rolling of metals. The laboratory of ingotless rolling of the institute imeni Baumana worked on problems of rolling without ingots of non-ferrous metals and of steel. The following themes were included in the number of practical themes upon which metallurgists worked: working out of and introduction into steel smelting industry of the processes of extra fast smeltings; rational exploitation of poor and phosphorous iron ores; utilization of waste products 50X1 metallurgical industry; and others. practical industrial problems, the successful solution of which could bring in clear profits have had to be the basis for selection of the main bulk of themes of scientific research work during the post-World War II period.

13. 50X1

The most gifted and progressive engineers often try, as much as possible, to work independently in order to raise their qualifications, but practically, this is extremely difficult to accomplish because of specific Soviet conditions.

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